

Sage-Grouse Habitat Indicator Calculations – Line-Point Intercept Data Summary Directions

Once the data has been collected, calculate the sage-grouse habitat indicators as described below. If using a tablet, computer, or other electronic data collection device, these indicators may be calculated automatically. If not, summarize the data and write the indicator calculations at the top of your field forms.

Cover of shrubs, forbs, and grasses:

- *Sagebrush Cover: Hits* = # of sagebrush hits, *% cover* = # points where a sagebrush was hit divided by the total number of transect points. Multiply the result by 100.
- *Other Shrub Cover: Hits* = # of total shrub hits, excluding sagebrush, *% cover* = # of points where a shrub was hit divided by the total number of transect points. Multiply the result by 100.
- *Perennial Forb Cover: PF Hits* = # of perennial forb hits, *% cover* = # of hits divided by total number of transect points. Multiply the result by 100.
- *Annual Forb Cover: AF Hits* = # of annual forb hits, *% cover* = # of hits divided by total number of transect points. Multiply the result by 100.
- *Total Forb Cover: PF+AF Hits* = # of perennial and annual forb hits, *% cover* = # total forb hits divided by total number of transect points. Multiply the result by 100.
- *Perennial Grass Cover: PG Hits* = # of perennial grass hits, *% cover* = # of hits divided by total number of transect points. Multiply the result by 100.
- *Annual Grass Cover: AG Hits* = # of annual grass hits, *% cover* = # of hits divided by total number of transect points. Multiply the result by 100.
- *Total Grass Cover: AG+PG Hits* = # of annual and perennial grass hits, *% cover* = # total grass hits divided by total number of transect points. Multiply the result by 100.

Height of shrubs, forbs, and grasses:

- *Avg. Sagebrush Height* = sum of all sagebrush recorded heights divided by total number of sagebrush plants measured.
- *Avg. Perennial Forb (PF) Height* = sum of all perennial forb recorded heights divided by total number of perennial forbs measured.
- *Avg. Perennial Grass (PG) Height* = sum of all perennial grass recorded heights divided by total number of perennial grass plants measured.
- *Note:* Relative to perennial forbs, it is recommended the suitability rating should focus on the cover estimates and preferred forb availability ratings rather than on height due to the variability in heights that can be encountered between forbs and grasses. However, average perennial forb height and/or average perennial forb and grass height (combined) can be calculated, if desired, to provide additional context to the description of the assessment area.
- *Sandberg bluegrass (or similar species):*
 1. Summarize cover and height for perennial grasses, excluding Sandberg bluegrass or similar short-statured perennial grasses.
 2. Summarize cover and height for Sandberg bluegrass.
 3. Summarize cover and height inclusive of all perennial grasses.

Because shorter-statured perennial grasses such as Sandberg bluegrass may influence cover and height averages especially where abundant, the authors recommend that perennial grass metrics be summarized using all three methods, to provide additional context for the perennial grass suitability rating. For example, if cover, and height for perennial grasses, excluding Sandberg bluegrass (#1), are within the range of the suitable category in the HAF, then consider a ranking of "suitable" for the perennial grass indicator. However, if average cover (regardless of height) of these perennial grasses is not within the suitable category, use the cover and height averages for all perennial grasses, including Sandberg bluegrass (#3). Then, use the cover and height averages for the non-Sandberg perennial grasses (#1), as well as for Sandberg bluegrass itself (#2), to inform the rationale for the rating of the perennial grass indicator. Also, consider the capability of the site to provide species composition, cover, and structure for productive sage-grouse habitat on an annual basis.

Sagebrush shape:

- *Sagebrush Shape* = total # of sagebrush plants of each shape, spreading (S) or columnar (C), divided by total number of sagebrush plants measured.